PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FNTYA063WO	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/JP2004/018446	International filing date *(day/month/year)* 03.12.2004	Priority date *(day/month/year)* 05.12.2003

International Patent Classification (IPC) or national classification and IPC
INV. B60K28/16 B60K41/20 B60K41/00

Applicant
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1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 5 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
09.06.2005	14.03.2006

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/018446

Box No. I Basis of the report

1. With regard to the **language**, this report is based on

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3(a) and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4(a))
   - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages	
1-23	as originally filed
Claims, Numbers	
4-6, 12-14, 17, 18	as originally filed
1, 2, 9-11, 15	received on 09.06.2005 with letter of 09.06.2005
Drawings, Sheets	
1/6-6/6	as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-18
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-18
Industrial applicability (IA)	Yes:	Claims	1-18
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 15 is not new in the sense of Article 33(2) PCT.

2. The document D3 discloses (the references in parentheses applying to this document):

   An automobile driven with a driving force from a driving source, said automobile comprising:
   a deceleration force estimation module that estimates a deceleration force in a vehicle longitudinal direction, which is caused by steering of the vehicle and is applied to reduce speed (VA) of the vehicle;
   a control value calculation module (530) that adjusts phases of a longitudinal acceleration in the vehicle longitudinal direction and a lateral acceleration in a vehicle lateral direction out of a steering-based acceleration (YG), which is caused by steering of the vehicle and is applied to the vehicle, based of the estimated deceleration force, so as to calculate an adjustment control value (VSUB) that is used to adjust the steering-based acceleration; and
   a driving control module that drives and controls the driving source to ensure output of a driving force (dFC) to an axle based on a drive change demand (APO) of the vehicle and the calculated adjustment control value (VSUB) (cf. paragraph 79 and figures).

2.1 The subject-matter of claim 1 is therefore not new in the sense of Article 33(2) PCT.

3. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 15, which therefore is also considered not new. Dependent claims 2, 4-6, 9-14, 17 and 18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, see document D3 and the corresponding passages cited in the search report.

Claims:

1. (Amended) An automobile driven with a driving force from a driving source, said automobile comprising:

a deceleration force estimation module that estimates a deceleration force in a vehicle longitudinal direction, which is caused by steering of the vehicle and is applied to reduce speed of the vehicle;

a control value calculation module that adjusts phases of a longitudinal acceleration in the vehicle longitudinal direction and a lateral acceleration in a vehicle lateral direction out of a steering-based acceleration, which is caused by steering of the vehicle and is applied to the vehicle, based on the estimated deceleration force, so as to calculate an adjustment control value that is used to adjust the steering-based acceleration; and

a driving control module that drives and controls the driving source to ensure output of a driving force to an axle based on a drive change demand of the vehicle and the calculated adjustment control value.

2. (Amended) An automobile in accordance with claim 1, wherein said control value calculation module comprises a magnitude regulator that regulates magnitude of the longitudinal acceleration in the vehicle longitudinal direction out of the steering-based acceleration,

said control value calculation module calculating the

adjustment control value, based on the regulation by said magnitude regulator.

3. (Cancelled)

4. An automobile in accordance with claim 2, wherein said magnitude regulator decreases the magnitude of the longitudinal acceleration.

5. An automobile in accordance with claim 2, wherein said magnitude regulator regulates the magnitude of the longitudinal acceleration to set at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration, to a specified level.

6. An automobile in accordance with claim 2, wherein said magnitude regulator regulates the magnitude of the longitudinal acceleration to reduce at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration.

7. (Cancelled)

8. (Cancelled)

9. (Amended) An automobile in accordance with claim 1,

wherein said control value calculation module lags the phase of the longitudinal acceleration relative to the phase of the lateral acceleration.

10. (Amended) An automobile in accordance with claim 1, wherein said control value calculation module adjusts the phase of the longitudinal acceleration to set at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration, to a specified level.

11. (Amended) An automobile in accordance with claim 1, wherein said control value calculation module adjusts the phase of the longitudinal acceleration to reduce at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration.

12. An automobile in accordance with claim 1, said automobile further comprising:

a steering angle detection module that detects a steering angle; and

a vehicle speed measurement module that measures a vehicle speed,

wherein said deceleration force estimation module estimates the deceleration force, based on the detected steering angle and the measured vehicle speed.

13. An automobile in accordance with claim 12, wherein said deceleration force estimation module estimates the deceleration force to increase with an increase in the detected steering angle and to increase with an increase in the measured vehicle speed.

14. An automobile in accordance with claim 1, wherein the driving source includes at least one of an internal combustion engine and a motor.

15. (Amended) An automobile control method of controlling an automobile, which is driven with a driving force from a driving source, said automobile control method comprising the steps of:

(a) estimating a deceleration force in a vehicle longitudinal direction, which is caused by steering of the vehicle and is applied to reduce speed of the vehicle;

(b) regulating magnitude and phase of a longitudinal acceleration in the vehicle longitudinal direction out of a steering-based acceleration, which is caused by steering of the vehicle and is applied to the vehicle, based on the estimated deceleration force, so as to calculate an adjustment control value that is used to adjust the steering-based acceleration; and

(c) driving and controlling the driving source to ensure

output of a driving force to an axle based on a drive change demand of the vehicle and the calculated adjustment control value.

16. (Cancelled)

17. An automobile control method in accordance with claim 15, wherein said step (b) calculates the adjustment control value to set at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration, to a specified level.

18. An automobile control method in accordance with claim 15, wherein said step (b) calculates the adjustment control value to reduce at least one of a pitching level and a rolling level of the vehicle, which is caused by the steering-based acceleration.